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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,962	01/07/2002	Mika Perala	3501-1001	6257

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EXAMINER
ROBERTSON, JEFFREY

ART UNIT	PAPER NUMBER
1712	10

DATE MAILED: 03/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/019,962	PERALA ET AL.	
	Examiner	Art Unit	
	Jeffrey B. Robertson	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☒ Claim(s) *9-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 2, line 28, epoxy is spelled incorrectly. On page 3, lines 32-34, applicant fails to identify whether the molecular weight of the polysiloxane is weight average or number average molecular weight. Applicant also fails to set forth a Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74 should be present in the specification. On page 5, lines 16-19, and 26-30, the formulas for the epoxy silanes should be corrected so that the oxygen appears to be bound in a ring. Also, for the formula in lines 16-19, the $(CH_2)_k$ group is underlined, and the connectivity to the silane portion of the molecule is not shown.

Appropriate correction is required.

Information Disclosure Statement

2. Mowrer et al. (WO 96/16109), Mowrer et al. (WO 98/32792) are indicated as X references in the Foreign Search Reports. However, none of these references teach or suggest the use of an epoxy silane crosslinking agent as required by applicant. Hoehn et al. (U.S. Patent No. 5,492,981) is also cited as an X reference. However, Hoehn et al. teaches the combination of an epoxy functional polysiloxane with an epoxy resin. Although the epoxy functional polysiloxane is produced by components that resemble applicants components (ii) and (iii), these are condensed prior to mixing with the epoxy

resin. Kuriyama et al. (U.S. Patent No. 4,851,481) also cited as an X reference is discussed below.

Claim Objections

3. Claims 9-11 are objected to because of the following informalities: For claims 9 and 11, the formulas for the epoxy silanes should be corrected so that the oxygen appears to be bound in a ring. Also, for the formula in claim 9, the $(CH_2)_k$ group is underlined, and the connectivity to the silane portion of the molecule is not shown. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. For claim 1, applicant sets forth a ranger for the mass of the siloxane, however, this is not identified as a weight average or number-average. See paragraph 1 above.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10 and 11 lack antecedent basis for the term "[a] paint composition". Claims 1 and 9 fail to set forth a paint composition. Claim 1 sets forth a "composition to be used in paints" but this is a statement of intended use and does not express that the composition of claim 1 is a paint composition.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 3, and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuriyama et al. (U.S. Patent No. 4,851,481).

For claim 1, Kuriyama teaches an epoxy resin composition that is used in paints in the abstract. In column 2, lines 8-34, Kuriyama teaches the presence of an organopolysiloxane having terminal silanol groups. This corresponds to applicant's formula for component ii) where R_2 is hydrogen. Kuriyama teaches that R_1 is methyl or

phenyl, which also falls within the definition of applicant's R_1. Here, Kuriyama also teaches that p is an integer of 9-500, which significantly overlaps with the mass requirement of component ii). For claims 1 and 9-11, Kuriyama also teaches the addition of epoxy silanes in column 6, line 1 through column 7, line 17. Here Kuriyama sets forth (3,4-epoxycyclohexyl)ethyl-trimethoxysilane and 3-glycidyloxypropyltrimethoxysilane as suitable silanes. For claims 1 and 3, in column 4, lines 43-47, Kuriyama teaches non-aromatic branched epoxy resins including those of the glycerin triether type.

10. Claims 1, 2, 9, 10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Gasmena (U.S. Patent No. 5,703,178).

For claim 1, in column 2, lines 43-50, Gasmena teaches coatings that contain an epoxy resin, an epoxy silane, a siloxane, and optionally a pigment. In column 6, lines 22-26, Gasmena teaches that the epoxy resin may be an aliphatic epoxy resin. In column 2, lines 34-36, Gasmena teaches that the epoxy resin makes up 1-20% by weight of the composition. For claims 1, 9, and 10, in column 3, lines 38-65, Gasmena teaches the addition of an epoxy functional silane and specifically mentions glycidyloxypropyltrimethoxysilane as preferred example. In column 4, lines 1-5, Gasmena teaches that the epoxy silane is present in an amount of 0.5 to 5 % of the composition. In column 4, lines 16-40, Gasmena teaches the addition of a polysiloxane that has a molecular weight of 500 to 3500, which significantly overlaps with applicant's molecular weight. Applicant's R_1 and R_2 significantly overlap with Gasmena's R_3 and

R_4. In column 4, lines 50-52, Gasmena teaches that the amount of polysiloxane in the coating is from 0.5 to 5 %.

For claim 2, the amounts of the components set forth by Gasmena result in ratios that fall within applicant's claimed range.

For claim 12, in column 9, lines 50-62, Gasmena teaches a two-part kit where the composition is placed in a first container, and an amine hardener is placed along with other additives in a second container.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuriyama et al. (U.S. Patent No. 4,851,481) as applied to claims 1 and 3 above, and further in view of Eklund et al. (U.S. Patent no. 6,180,726).

For claims 4 and 5, Kuriyama teaches the limitations of claims 1 and 3 as detailed above. Although Kuriyama teaches epoxy resins derived from polyalcohols, Kuriyama does not teach the polyglycidyl ether of pentaerythritol as set forth in claim 5, which would also satisfy the limitations of claim 4.

In column 2, lines 45-64, Eklund teaches coatings containing epoxy resins. In column 8, lines 55-63, Eklund teaches that pigments may be added to the coating

compositions thus forming a paint. In column 6, lines 44-46, Eklund teaches the use of aliphatic epoxy resins such as pentaerythritol polyglycidyl ether.

Eklund and Kuriyama are analogous art in that they both teach the use of epoxy resins in paint compositions that also contain silicone components. It would have been obvious to one of ordinary skill in the art at the time of the invention to use pentaerythritol polyglycidyl ether as the epoxy resin derived from polyalcohols. The motivation would have been that Kuriyama provides the express suggestion to use this type of an epoxy resin. One of ordinary skill in the art would have looked to Eklund to provide specific examples of such resins.

13. Claims 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuriyama et al. (U.S. Patent No. 4,851,481) as applied to claims 1 and 3 above, and further in view of Iwamura et al. (U.S. Patent no. 5,705,567).

For claims 4 and 5, Kuriyama teaches the limitations of claims 1 and 3 as detailed above. Although Kuriyama teaches epoxy resins derived from polyalcohols and glycerin triether type resins, Kuriyama does not teach the triglycidyl ether of glycerine or neopentyl glycol diglycidyl ether as set forth in claims 6 and 7, which would also satisfy the limitations of claim 4.

In column 1, lines 10-31, Iwamura teaches paints containing epoxy resins. In column 10, lines 26-38, Iwamura teaches the use of aliphatic epoxy resins such as triglycidyl ether of glycerine or neopentyl glycol diglycidyl ether.

Iwamura and Kuriyama are analogous art in that they both teach the use of epoxy resins in paint compositions that also contain silicone components. It would have

been obvious to one of ordinary skill in the art at the time of the invention to use triglycidyl ether of glycerine or neopentyl glycol diglycidyl ether as the epoxy resin derived from polyalcohols and the glycerin triether type resin. The motivation would have been that Kuriyama provides the express suggestion to use these types of epoxy resins. One of ordinary skill in the art would have looked to Iwamura to provide specific examples of such resins.

14. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gasmena (U.S. Patent No. 5,703,178) as applied to claim 1 above, and further in view of Eklund et al. (U.S. Patent no. 6,180,726).

For claims 3-5, Gasmena teaches the limitations of claim 1 as detailed above. Although Gasmena teaches aliphatic glycidal epoxy resins, Gasmena does not teach the polyglycidyl ether of pentaerythritol as set forth in claim 5, which would also satisfy the limitations of claims 3 and 4.

In column 2, lines 45-64, Eklund teaches coatings containing epoxy resins. In column 8, lines 55-63, Eklund teaches that pigments may be added to the coating compositions thus forming a paint. In column 6, lines 44-46, Eklund teaches the use of aliphatic epoxy resins such as pentaerythritol polyglycidyl ether.

Eklund and Gasmena are analogous art in that they both teach the use of epoxy resins in paint compositions that also contain silicone components. It would have been obvious to one of ordinary skill in the art at the time of the invention to use pentaerythritol polyglycidyl ether as the aliphatic glycidal epoxy resin. The motivation would have been that Gasmena provides the express suggestion to use this type of an

epoxy resin. One of ordinary skill in the art would have looked to Eklund to provide specific examples of such resins.

15. Claims 3, 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gasmena (U.S. Patent No. 5,703,178) as applied to claim 1 above, and further in view of Iwamura et al. (U.S. Patent no. 5,705,567).

For claims 4 and 5, Gasmena teaches the limitations of claims 1 and 3 as detailed above. Although Gasmena teaches aliphatic glycidal epoxy resins, Gasmena does not teach the triglycidyl ether of glycerine or neopentyl glycol diglycidyl ether as set forth in claims 6 and 7, which would also satisfy the limitations of claims 3 and 4.

In column 1, lines 10-31, Iwamura teaches paints containing epoxy resins. In column 10, lines 26-38, Iwamura teaches the use of aliphatic epoxy resins such as triglycidyl ether of glycerine or neopentyl glycol diglycidyl ether.

Iwamura and Gasmena are analogous art in that they both teach the use of epoxy resins in paint compositions that also contain silicone components. It would have been obvious to one of ordinary skill in the art at the time of the invention to use triglycidyl ether of glycerine or neopentyl glycol diglycidyl ether as the aliphatic glycidal epoxy resins. The motivation would have been that Gasmena provides the express suggestion to use these types of epoxy resins. One of ordinary skill in the art would have looked to Iwamura to provide specific examples of such resins.

Allowable Subject Matter

16. Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action and to include all of the

limitations of the base claim and any intervening claims. None of the cited art teaches or suggests the specific aliphatic epoxy resin as claimed used in compositions containing a polysiloxane and an epoxy silane.

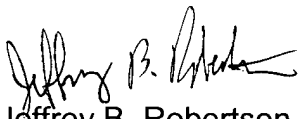
Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kistner (U.S. Patent No. 4,587,169), Mowrer et al. (U.S. Patent No. 5,942,073), and Isshiki et al. (U.S. Patent No. 5,958,515) are cited for general relevance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (703) 306-5929. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeffrey B. Robertson
Examiner
Art Unit 1712

JBR
February 28, 2003